



FACCE-MACSUR

WP 1. Building and exploring datasets and climate models on climate change in relation to livestock and grassland

Task L1.1: Identification of datasets on climate change in relation to livestock productivity (production and fitness traits) and livestock infectious disease

Dave Bartley¹, Martin Köchy², Odd Magne Harstad³, Andreas Meyer-Aurich⁴, Eileen Wall⁵, Nicolas Gengler⁶, Anthony Wilson⁷, Nigel Scollan⁸

¹, Moredun Research Institute, UNITED KINGDOM

², Johann Heinrich von Thünen-Institut, GERMANY

³, Department of animal- and Aquacultural sciences, Norwegian University of life sciences, NORWAY

⁴, Leibniz Institute for Agricultural Engineering Potsdam-Bornim, GERMANY

⁵, Scotland's Rural College, UNITED KINGDOM

⁶, University of Liège, BELGIUM

⁷, Institute for Animal Health, UNITED KINGDOM

⁸, Aberystwyth University, UNITED KINGDOM

*dave.bartley@moredun.ac.uk

Deliverable type: Report

File name: Report L1.1 v1.0.docx

Deliverable reference num.: L1.1

Revision	Changes	Date
1.0		2013-06-26
1.01		2013-01-28

Instrument:	Joint Programming Initiative
Topic:	Agriculture, Food Security, and Climate Change
Project:	Modelling European Agriculture with Climate Change for Food Security (FACCE-MACSUR)
Due date of deliverable:	month 6
Submission date:	2013-06-26
Start date of project:	1 June 2012
Duration:	36 months
Deliverable lead partner:	MRI
Revision:	1.0
Work Package:	LiveM 1.1
Document ref number:	L1.1 v1.0

Table of Contents

Table of Contents.....	1
Introduction	2
Methods	2
Results.....	3

Introduction

Limited accessibility of data is a major bottleneck in the development of improved models of the relationship between grasslands, livestock production and disease and climate change. The core of this task is contributing to climate change risk assessment and GHG mitigation potential through selecting agreed datasets for model evaluation and application.

Methods

A spreadsheet for collation of information/datasets on animal and system productivity traits, animal health and disease prevalence and transmission patterns, grass growth models and their link to animal production has been developed (figure 1) and disseminated to the participants from Belgium, Germany, Norway and the United Kingdom.

		Questions	Data-set 1	Data-set 2
DATASET/RESEARCH PROJECT TITLE:				
PROJECT LEADER:	1	Project Leader		
CONTACT DETAILS:	2	Contact name		
	3	E-mail address		
	4	Telephone Number		
	5	Sponsors		
	6	Duration (start-end dates):		
	7	IP Issues		
BRIEF SUMMARY OF AVAILABLE INFORMATION:	8	Country of data generation		
	9	Timespan of data collection: Start		
	10	Timespan of data collection: Finish		
	11	Agro-climatic conditions		
	12	Livestock involved		
	13	Number of individuals involved		
	14	Housing type		
	15	Animal performance data available		
	16	Feed data		
	17	Temperature data		
	18	Humidity data		
	19	Link to local weather set (Please add details)		
	20	Disease pattern		
	21	Infectious agent(s) involved (Please add details)		
	22	Further information (Please add details)		
	23	Disease vector information (Please add details)		
	24	References (Please add relevant references)		
	25	Summary		
	26	Project link (If available)		
	27	Any other relevant information		
	28	Further information		

Figure 1. Copy of data collection sheet for task L1.1

Location	Austria	Belgium	Bulgaria	Cyprus	Czech	Denmark	Estonia	Finland
Timespan of data collection								
Agro-climatic conditions	Arid/semi-arid	Humid/Subhumid	Tropical	Temperate				
Livestock	Beef cattle	Dairy Cattle	Goats	Pigs	Sheep	Other		
Number of individuals involved		0-10	11-50	51-100	100-250	>250		
Housing	Indoors	Outdoors	Both					
Animal data	Milk Yield	Milk Composition	Meat Production	Weight gain	Insemination rate	Calving/lambing rate	Mortality	Other Morbidity parameter
Feed	Quality	Quantity	Quality and quantity					
Temperature	Maximum	Minimum	Average	All above				
Humidity	Yes	no						
Link to local weather set	Yes	no						
Disease parameters	Endemic	Exotic	Zoonotic					
Disease vector information								
References								
Summary								
Project list								

Figure 2. Examples of potential responses for questions 8 to 26

Results

Datasets from Germany and the United Kingdom containing information on geographic (European Union 27 countries), climatic, meteorological, host and infectious agents' parameters (figure 2) have been completed and are now available for preliminary analysis relating to data quality and consistency. Data set information will continue to be added over the next 12 months.

Acknowledgements

We thank the participants for sharing data and models.

This paper is a contribution to the FACCE MACSUR knowledge hub.